

The claimed invention teaches a composition which performs a complex neutralization of formaldehyde vapors from different work places, and an enzymatic oxidation of inhaled formaldehyde vapors in oral mucosa.

- 2) The claimed invention utilizes a different principle of operation. Applicant has blazed a trail rather than followed one.

The Derwent abstract teaches that the composition is used directly for diluting and freezing the bull sperms in cold aqueous solutions, in laboratory containers.

The claimed invention teaches that the comprised chemicals are reacting with airborne formaldehyde, and with inhaled formaldehyde vapors in the human oral mucosa.

- 3) Applicant's invention solves a different problem than the reference, and such different problem is cited in the claims.

The Derwent abstract teaches a composition utilized for diluting and freezing thawed bull sperms in sterile laboratory environment, for increasing the sperms fertilizing activity after thawing.

The claimed invention teaches a composition which performs detoxification of formaldehyde vapors from the ambient air at the work places and/or formaldehyde vapors inhaled being inhaled by humans.

Claim 2 is rejected under 35 U.S.C. 102 (b) as being anticipated by Merck Index Twelfth Edition 1996, pages 761 and 762.

Applicant requests reconsideration of this rejection for the following reasons:

- 1) The reference does not teach what the examiner relies upon it is supposedly teaching.

The Examiner interprets the claim to read upon reduced glutathione. The Merck Index lists references to the first isolation of reduced glutathione (GSH) in 1929 and methods to synthesize it in the laboratory have been known since 1952. Therefore, reduced glutathione is a well known laboratory agent and anybody working with reduced glutathione would necessarily have received the benefit of having protection from formaldehyde vapors.

The claimed invention teaches about GSH in aqueous solution being introduced in human oral mucosa and participating in a cellular reaction , where GSH serves

as a substrate formaldehyde dehydrogenase, which converts formaldehyde and GSH to S-formyl-glutathione.

- 2) The claimed invention utilizes a new principle of operation Applicant have blazed a trail, rather than followed one.

The Merck Index teaches that GSH is a well known laboratory agent.

The claimed invention teaches that GSH is an essential cofactor for enzymes.

- 3) The reference is from a very different technical field than that of the invention, that is, it is "noanalogous art"

The reference teaches that the reduced glutathione is a well known laboratory reagent,

The claimed invention teaches that the reduced glutathione is an enzyme cofactor. It is regulating a complex thiol-exchange system functioning at all levels of cell activity, enzymes collectively known as GSH transhydrogenases use GSH as a factor to convert.

Claim 3 is rejected under 35 U.S.C. 102 (b) as being anticipated by the Merck Index. The Index discloses that beta-cyclodextrin was isolated in 1981, therefore it is a well-known reagent and anybody is working with beta-cyclodextrin would have necessarily received the benefit of having protection from formaldehyde vapors.

Applicant requests reconsideration of this rejection for the following reasons:

The reference does not teach what the examiner relies upon it as supposedly teaching.

The claimed invention teaches that the beta- cyclodextrin, a non-reducing cyclic oligosaccharide, does form inclusion complexes with guest molecules (active ingredients). It does change rheological properties and increases bioavailability of the accepted molecules. The complexation in aqueous solution results in stabilization against ultraviolet light, against temperature, against oxidation, and in controlled release of actives. The beta-cyclodextrin is only able to form inclusion complex with formaldehyde, and controlling its release, but it is not reacting with it. Therefore, beta-cyclodextrin is not detoxifying the formaldehyde, and it is not protecting workers from formaldehyde vapors.

Claim 4 is rejected under 35 U.S.C. 102 (b) as being anticipated by Halenbeck et al.

(US 4,929,700). The Halenbeck et.al patent discloses the same components in the composition as the instant invention and therefore the composition is anticipated.

Applicant requests reconsideration of this rejection for the following reasons:

- 1) The reference is from a very different technical field than that of the invention, that is, it is 'nonanalogous art'.

The reference relates to a process and compositions in a chaotropic environment and under reducing conditions for recovering a dimeric, biologically active colony stimulating factor (CFS-1) from bacterially expressed recombinant CSF-1 genes. The process comprises recovery of the solubilized monomeric form, followed by dimerization under refolding conditions, and removing contaminating proteins and endotoxins, yielding a product suitable for clinical use. The reference teaches the use of glutathione as a redox system, in both oxidized and reduced forms, for reducing linkages to sulfhydryl groups, and for promoting disulfide bond formation in the refolding conditions.

The claimed invention teaches a composition for performing a complex neutralization and fixation of formaldehyde vapors released in ambient air and/or inhaled by workers at different work places.

- 2) The claimed invention solves a very different problem than the reference, and such different problem is cited in the claim.

The reference concerns procedures and compositions that are facilitate the production of biologically active dimeric forms of a colony stimulating factor (CFS-1), a homodimeric glycoprotein, from bacterial hosts expressing genes encoding the monomer.

The claimed invention teaches a composition for performing a complex neutralization and fixation of formaldehyde vapors released in the ambient air and/or inhaled by workers at different work places.

- 3) The reference does not teach what the examiner relies upon it as supposedly teaching.

The reference teaches that the urea is used a chaotropic environment agent for disrupting the tertiary structure of proteins, or which is maintained at a temperature or other condition which causes such disruption. Suitable chaotropic environments include urea, guanidinium, detergents, and acetic acid.

The reference teaches that the reduced glutathione is used as an additional functional reducing agent to compositions comprising thiol-containing moieties, capable of reducing disulfide linkages to sulfhydryl groups.

The reference teaches that glutathione in both, reduced and oxidized forms is included in redox systems that permit the continuous oxidation and reduction of thiol/disulfide pairs.

The reference teaches that the CSF-1 pool is diluted in a buffering solution containing guanidine hydrochloride, TRIS, EDTA and glutathione in both, reduced and oxidized forms, at pH 8.5.

The reference teaches that after the protein content was determined, the solution was then diluted in buffer containing TRIS, sodium chloride, EDTA, reduced and oxidized glutathione by the addition to a buffer containing sodium phosphate, EDTA, DTT to the protein solution.

The claimed invention teaches the use of the composition containing water, urea, TRIS, reduced glutathione, and beta-cyclodextrin for detoxifying formaldehyde vapors at various work places with different environment.

Conclusion

For all the reasons given above, applicant respectfully submits that the claims define over the prior art under Section 102, and the claimed distinctions are of patentable merit.

Accordingly, applicant submits that this application is now in full condition for allowance, which action applicant respectfully solicits.

Conditional request For Constructive Assistance

Applicant has amended the specifications and claims of this application so they are proper, definite, and define novel composition which is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, applicant respectfully request the constructive assistance and suggestions of the Examiner pursuant to M.E.P. 706.03 (d) and 707.07 (j) in order to the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully,

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Date: 11/16/05

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